

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-3 (canceled)

4. (new) A train detection system comprising:
 - a transmitter, to be connected to a track circuit, which transmits to the track circuit a train detecting signal;
 - a receiver, to be connected to the track circuit, which receives the train detecting signal from the track circuit; and
 - a control device on the ground, to be connected to said transmitter and to said receiver through a data transmission path, which transmits the train detecting signal to said transmitter and receives the train detecting signal from said receiver;
 - wherein said transmitter adds a first unique code data to the train detecting signal transmitted from said control device on the ground and transmits the same to the track circuit;
 - wherein said receiver adds a second unique code data to the train detecting signal being added of the first unique code data received from the track circuit and transmits the same to said control device on the ground; and
 - wherein said control device on the ground collates whether the first unique code data and the second unique code data received from said receiver coincide with predetermined data contents.

5. (new) A train detection system according to claim 4, wherein the first unique code data and the second unique code data are different for every track circuit.

6. (new) A train detection system according to claim 4, wherein said control device on the ground stores the same data as the first unique code data and the second unique code data respectively added to the train detecting signal by said transmitter and said receiver while coordinating respectively with said transmitter and said receiver and collates whether the first unique code data and the second unique code data received from the receiver coincide with the first unique code data and the second unique code data stored in said control device on the ground.

7. (new) A train detection system according to claim 4, wherein when the first unique code data and the second unique code data received from said receiver do not coincide with the predetermined data contents, said control device on the ground displays the collation result.

8. (new) A train detection system according to claim 4, wherein when the first unique code data and the second unique code data received from said receiver do not coincide with the predetermined data contents, said control device on the ground controls train signals while assuming that a train exists in the track circuit.

9. (new) A train detection system comprising:
 - a transmitter, to be connected to a track circuit, which transmits to the track circuit a train detecting signal;
 - a receiver, to be connected to the track circuit, which receives the train detecting signal from the track circuit; and
 - a control device on the ground, to be connected to said transmitter and to said receiver through a data transmission path, which transmits the train detecting signal to said transmitter and receives the train detecting signal from said receiver;
 - wherein said transmitter applies a logical operation with a first unique code data to the train detecting signal transmitted from said control device on the ground and transmits the same to the track circuit;
 - wherein said receiver applies a logical operation with a second unique code data to the received information received from the track circuit and transmits the same to said control device on the ground; and
 - wherein said control device on the ground collates whether the received information received from said receiver coincides with predetermined information content.

10. (new) A train detection method comprising the steps of:
 - transmitting a train detecting signal from a control device on the ground to a transmitter through a data transmission path;
 - transmitting the train detecting signal from the transmitter to a track circuit;

receiving the train detecting signal from the track circuit by a receiver;
and

transmitting the train detecting signal from the receiver to the control device on the ground through the data transmission path;
wherein the transmitter adds a first unique code data to the train detecting signal transmitted from the control device on the ground and transmits the same to the track circuit;

wherein the receiver adds a second unique code data to the train detecting signal being added of the first unique code data received from the track circuit and transmits the same to the control device on the ground; and
wherein the control device on the ground collates whether the first unique code data and the second unique code data received from the receiver coincide with predetermined data contents.